

interconnection conductors to one another and to said plurality of logic resources, said programmable

- 10 interconnection resources being less than fully populated; said programmable logic device further comprising:

at least one random access memory having a read port and a write port;

- 15 a first programmable interconnection resource in said plurality of programmable interconnection resources for connecting port conductors in said read port to a selected one of said plurality of groups of interconnection conductors; and

- 20 a second programmable interconnection resource in said plurality of programmable interconnection resources for connecting port conductors in said write port to said selected one of said plurality of groups of interconnection conductors; wherein:

- 25 said read port has a first number of read port conductors;

said write port has a second number of write port conductors;

- 30 said first number is equal to said second number, each read port conductor in said read port having a corresponding write port conductor in said write port; and

- 35 said first and second programmable interconnection resources are populated to allow connection of each individual conductor in said selected one of said plurality of groups of interconnection conductors to an individual read port conductor in said read port and to an individual write port conductor, corresponding to said individual read port conductor, in said write port.

3. (amended) A digital processing system comprising:

- 5 processing circuitry;  
a system memory coupled to said processing circuitry; and

coupled to the processing circuitry and the  
system memory, a programmable logic device comprising:  
a plurality of logic resources,  
a plurality of groups of interconnection  
10 conductors for interconnecting said logic resources, and  
a plurality of programmable interconnection  
resources for connecting conductors in said groups of  
interconnection conductors to one another and to said  
plurality of logic resources, said programmable  
15 interconnection resources being less than fully populated,  
said programmable logic device further comprising:  
at least one random access memory having a  
read port and a write port,  
a first programmable interconnection resource  
20 in said plurality of programmable interconnection resources  
for connecting port conductors in said read port to a  
selected one of said plurality of groups of interconnection  
conductors, and  
a second programmable interconnection  
25 resource in said plurality of programmable interconnection  
resources for connecting port conductors in said write port  
to said selected one of said plurality of groups of  
interconnection conductors, wherein:  
said first and second programmable  
30 interconnection resources are populated to allow connection  
of an individual conductor in said selected one of said  
plurality of groups of interconnection conductors to  
corresponding port conductors in both said read port and  
said write port.

4. (amended) A printed circuit board on which is  
mounted a programmable logic device, said programmable logic  
device comprising:

a plurality of logic resources;  
5 a plurality of groups of interconnection  
conductors for interconnecting said logic resources; and

10 a plurality of programmable interconnection  
resources for connecting conductors in said groups of  
interconnection conductors to one another and to said  
plurality of logic resources, said programmable  
interconnection resources being less than fully populated;  
said programmable logic device further comprising:

at least one random access memory having a  
read port and a write port;

15 a first programmable interconnection resource  
in said plurality of programmable interconnection resources  
for connecting port conductors in said read port to a  
selected one of said plurality of groups of interconnection  
conductors; and

20 a second programmable interconnection  
resource in said plurality of programmable interconnection  
resources for connecting port conductors in said write port  
to said selected one of said plurality of groups of  
interconnection conductors; wherein:

25 said first and second programmable  
interconnection resources are populated to allow connection  
of an individual conductor in said selected one of said  
plurality of groups of interconnection conductors to  
corresponding port conductors in both said read port and  
30 said write port.

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7. (amended) An integrated circuit comprising:

3 a plurality of semiconductor devices;  
a plurality of groups of interconnection  
conductors for interconnecting said semiconductor devices;  
5 and

a plurality of programmable interconnection  
resources for connecting conductors in said groups of  
interconnection conductors to one another and to said  
plurality of semiconductor devices, said programmable  
10 interconnection resources being less than fully populated;  
said integrated circuit further comprising:

at least one random access memory having a read port and a write port;

15 a first programmable interconnection resource in said plurality of programmable interconnection resources for connecting port conductors in said read port to conductors in a selected one of said plurality of groups of interconnection conductors; and

20 a second programmable interconnection resource in said plurality of programmable interconnection resources for connecting port conductors in said write port to conductors in said selected one of said plurality of groups of interconnection conductors; wherein:

25 said read port has a first number of read port conductors;

said write port has a second number of write port conductors;

30 said first number is equal to said second number, each read port conductor in said read port having a corresponding write port conductor in said write port; and

35 said first and second programmable interconnection resources are populated to allow connection of each individual conductor in said selected one of said plurality of groups of interconnection conductors to an individual read port conductor in said read port and to an individual write port conductor, corresponding to said individual read port conductor, in said write port.

9. (amended) A digital processing system comprising:

5 processing circuitry;  
a system memory coupled to said processing circuitry; and  
coupled to the processing circuitry and the system memory, an integrated circuit comprising:  
a plurality of semiconductor devices,

10 a plurality of groups of interconnection  
conductors for interconnecting said semiconductor devices,  
and

15 a plurality of programmable interconnection  
resources for connecting conductors in said groups of  
interconnection conductors to one another and to said  
plurality of semiconductor devices, said programmable  
interconnection resources being less than fully populated,  
said integrated circuit further comprising:

at least one random access memory having a  
read port and a write port,

20 a first programmable interconnection resource  
in said plurality of programmable interconnection resources  
for connecting port conductors in said read port to  
conductors in a selected one of said plurality of groups of  
interconnection conductors, and

25 a second programmable interconnection  
resource in said plurality of programmable interconnection  
resources for connecting port conductors in said write port  
to conductors in said selected one of said plurality of  
groups of interconnection conductors, wherein:

30 said first and second programmable  
interconnection resources are populated to allow connection  
of an individual conductor in said selected one of said  
plurality of groups of interconnection conductors to  
corresponding port conductors in both said read port and  
35 said write port.

10. (amended) A printed circuit board on which is  
mounted an integrated circuit, said integrated circuit  
comprising:

5 a plurality of semiconductor devices;  
a plurality of groups of interconnection  
conductors for interconnecting said semiconductor devices;  
and

a plurality of programmable interconnection  
resources for connecting conductors in said groups of